

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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| In the Matter of |) | |
| |) | |
| Federal-State Joint Board on |) | CC Docket No. 96-45 |
| Universal Service |) | |
| |) | |
| Forward-Looking Mechanism for |) | CC Docket No. 97-160 |
| High Support for Non-Rural LECs |) | |

COMMENTS OF AMERITECH

Ameritech¹ submits these comments on customer location and outside plant design modules for a potential model for the calculation of forward-looking costs that are supported by the universal service mechanism in states that elect not to submit cost studies.²

All proxy models (HCPM, BCPM, Hatfield....) are using publicly available data to strive to achieve what the Ameritech Facility Analysis Model (AFAM) loop cost model has already achieved using Ameritech specific data: (1) actual feeder route segmentation, connectivity and capacity data, (2) actual customer location data by Distribution Area ("DA").

These proxy models, by basic definition, employ methods to estimate costs. This type of approach can lead to gross errors and should only be used when all

¹ Ameritech means: Illinois Bell Telephone Company, Indiana Bell Telephone Company, Incorporated, Michigan Bell Telephone Company, The Ohio Bell Telephone Company, and Wisconsin Bell, Inc.

² See, Public Notice, DA 97-2311 (released October 31, 1997).

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other reasonable methods have been exhausted and when more detailed information is unavailable. In general, when more detailed data specific to the study area is used, the results will be more accurate, and when more generic information is used, the model will produce less reliable results. Models that are built around company specific loop network data (such as AFAM) will provide more accurate results than a generic proxy model (for example HCPM).

It is understood that the HCPM is still a work in progress and its authors are trying to make it flexible and adaptable. These goals will allow users to substitute more detailed information or methods if they are available to individual users, in order to improve the accuracy of HCPM. In other words, a user may have to resort to using part or parts of HCPM if better data (such as feeder route data or customer location data) is unavailable.

I. CENBLOCK.

The HCPM uses the CENBLOCK module to estimate the geographic locations of telephone subscribers using currently available public data sources. CENBLOCK uses methods to distribute census information to partitioned grids. The authors of HCPM know that a more accurate understanding of subscriber distribution can lead to a more accurate estimate of costs. Unfortunately, in individual microgrids, these distributions may bear no resemblance to actual distributions, but the author's goal on average, is to provide a theoretical estimate. For reasons of improved accuracy, the authors have developed HCPM

in modules which would allow users to substitute more accurate customer location methods such as geocoding of customer locations.

CENBLOCK uses methods to uniformly distribute population information to partitioned grids. These grids effectively become the DA which will be used in the FEEDDIST module to design the theoretical distribution network. Of course, the final DAs defined by CENBLOCK may bear no resemblance to the real DA boundaries actually built. This type of approach can lead to gross errors and should only be used when all other methods have been exhausted. The author's goal on average is that the theoretical DAs in HCPM may be similar to real world DAs.

The real world DA boundaries are a fundamental building block of network design. AFAM has the distinct advantage of knowing DA boundaries and customer distribution within DAs in Ameritech's serving area and, therefore, does not need to estimate or uniformly distribute subscriber location information.

II. FEEDDIST.

The HCPM uses the FEEDDIST module to estimate the quantity, connectivity and sizes of cables in the feeder and distribution parts of the network. All cost models must use an approach that incorporates the forward looking design criteria of optimizing cable and equipment sizes and technology selections. However, the network costs developed by FEEDDIST are all based on a theoretical network. The actual locations of the customers, and design and

location of cables is unknown. The model relies on this “scorched earth” approach to estimate loop costs.

The HCPM methodology uses optimizing routines. For a theoretically designed network, where actual locations of customers, cables, and equipment are unknown, explicit cost optimization routines become necessary because no information is known about how the actual network would be optimized in the real world. For example, the location and quantities of Serving Area Interfaces (SAI) are estimated using an optimizing routine in FEEDDIST. In the real world, SAIs are associated with DAs. Any estimate of quantity or location of DAs results in an estimate of quantity, size, and location of SAIs. The optimizing routines are necessary to prevent gross errors in estimating the costs for a theoretically designed network.

The FEEDDIST module designs theoretical DAs. However, not everything in the real world is laid out at 90 degree angles (horizontal and vertical). Therefore, DAs designed in FEEDDIST may bear no resemblance to the real DAs actually built. This type of approach can lead to gross errors and should only be used when all other methods have been exhausted.

The sizing processes for terminals and cables are based on demand. However, because they are based on a theoretical network design, they may not be accurate for a given location. The author’s goal on average is that the theoretical terminal counts and sizes in HCPM may be similar to real world information.

Feeder route cable connectivity and paths are theoretically laid out. The cable size selection process optimizes size based on demand. However, the costs are based on a theoretical network, which may bear no resemblance to actual cable paths and layout. The author's goal on average is that the theoretical feeder routes in HCPM may be similar to real world information.

Real world DA boundaries and feeder route paths are fundamental building blocks of network design. AFAM has the distinct advantage of knowing how the actual feeder routes are constructed and connected to DAs within Ameritech's serving area. There is no need to estimate cable locations because an actual inventory is known. The AFAM cable paths, DA locations and SAI locations are real, and exist where they do because of real world constraints such as streets, population groups, terrain, and political right of ways, etc., and therefore are realistically optimized. Since AFAM relies on real world data and forward looking engineering guidelines, as opposed to a purely theoretical design in a proxy model, certain optimization routines are not required. Where more accurate real world network data is known, as is the case with AFAM, a more accurate estimate of costs can be calculated.

In summary, proxy models use methods to estimate costs which can lead to gross errors. Such models should be used only when all other reasonable methods have been exhausted and when more detailed information is unavailable.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Michael S. Pabian", with a large, stylized loop at the end.

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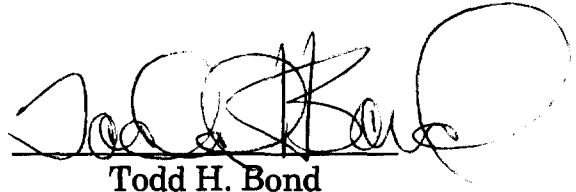
John C. Balke
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Dated: November 26, 1997
[MSP0085.doc]

CERTIFICATE OF SERVICE

I, Todd H. Bond, do hereby certify that a copy of the foregoing Comments of Ameritech has been served on all parties listed on the attached service list, via first class mail, postage prepaid, on this 26th day of November, 1997.

By:

A handwritten signature in black ink, appearing to read "Todd H. Bond", written over a horizontal line.

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